

Claims

- [c1] 1. A bipolar device, comprising:
- (a) a substrate having a collector;
 - (b) an emitter spaced from said collector;
 - (c) a base having a first portion located between said substrate and said emitter and a second portion surrounding said first portion, said base including a first conductor located within said first and second portions and having a first conductance in said first portion and a second conductance in said second portion, wherein said first conductance and said second conductance are substantially the same as one another.
- [c2] 2. A bipolar device according to claim 1, wherein said base comprises at least one epitaxial semiconductor layer.
- [c3] 3. A bipolar device according to claim 1, wherein said emitter includes an upper portion distal from said substrate and a lower portion located between said upper portion and said collector, said second portion of said base being located between said upper portion of said emitter and said substrate.
- [c4] 4. A bipolar device according to claim 1, wherein said first conductor comprises a silicide.
- [c5] 5. A bipolar device according to claim 1, further comprising a second conductor contained only in said second portion of

said base.

- [c6] 6. A bipolar device according to claim 5, wherein each of said first and second conductors comprises a silicide.
- [c7] 7. A bipolar device, comprising:
- (a) a substrate having a collector formed therein;
 - (b) an emitter including a lower portion located proximate said collector and an upper portion located distal said collector and extending beyond said lower portion so as to form an overlap region with respect to said substrate; and
 - (c) a base disposed on said substrate between said collector and said emitter and including a first conductor extending both inside and outside said overlap region and having a substantially uniform conductance.
- [c8] 8. A bipolar device according to claim 7, wherein said base comprises at least one epitaxial semiconductor layer.
- [c9] 9. A bipolar device according to claim 7, wherein said first conductor comprises a silicide.
- [c10] 10. A bipolar device according to claim 7, further comprising a second conductor contained only in said second portion of said base.
- [c11] 11. A bipolar device according to claim 10, wherein each of

said first and second conductors comprises a silicide.

- [c12] 12. A method of forming a bipolar device on a substrate having a collector, comprising the steps of:
- (a) forming an intrinsic base layer on said substrate;
 - (b) forming a first conductor above said intrinsic base layer, wherein said first conductor has a substantially uniform conductance throughout; and
 - (c) forming an emitter having at least a portion thereof extending over a portion of said first conductor.
- [c13] 13. A method according to claim 12, wherein step a includes forming an intentionally undoped layer.
- [c14] 14. A method according to claim 12, wherein step b includes forming a first extrinsic base layer and silicidating said first extrinsic base layer prior to step c so as to form said first conductor.
- [c15] 15. A method according to claim 14, wherein step b further includes forming a landing pad atop said first extrinsic base layer prior to silicidating said first extrinsic base layer.
- [c16] 16. A method according to claim 15, wherein step c includes removing a portion of said landing pad to form an aperture.
- [c17] 17. A method according to claim 16, wherein step c further includes oxidizing said first extrinsic base layer beneath said

aperture so as to form an oxidized region and removing at least a portion of said oxidized region to said intrinsic base layer.

[c18] 18. A method according to claim 14, further comprising the step of forming a second extrinsic base layer above said first extrinsic base layer and performing a first etch through said second extrinsic base layer to said first extrinsic base layer and then performing a second etch through said first extrinsic base layer to said intrinsic base layer.

[c19] 19. A method according to claim 12, further comprising the step of forming a second conductor that does not extend underneath said emitter.

[c20] 20. A method according to claim 19, wherein said second conductor is formed by silicidation.